CLAIMS

WE CLAIM:

1. A method of specifying an animation path in a virtual reality scene descriptive language. the method comprising:

segmenting the animation path in a scene description into at least one section;

determining a non-linear parametric representation that represents each section; and

representing the non-linear parametric representation in the virtual reality scene descriptive language.

2. A method as defined in Claim 1, wherein the non-linear parametric representation comprises a combination of one or more predetermined curves.

3. A method as defined in Claim 2, wherein the one or more curves are Bezier curves.

4. A method as defined in Claim 3, wherein each Bezier curve is a cubic function.

5. A method as defined in Claim 1, wherein the animation path is a scalar value.

6. A method as defined in Claim 1, wherein the animation path is a color representation.

7. A method as defined in Claim 1, wherein the animation path is a three dimensional position representation.

8. A method as defined in Claim 1, wherein the animation path is a two dimensional position representation.

9. A method as defined in Claim 1, wherein the non-linear parametric representation in the virtual reality scene descriptive language is transmitted to a remote unit where it is used to reconstruct the animation path.

10. A method of processing a scene in a virtual reality scene descriptive language, the method comprising:

receiving an initial scene representation in a virtual reality scene descriptive language;

specifying changes in the scene representation from the initial value; and

producing interpolated scenes between the initial value and the changes from the initial value by a non-linear interpolator process.

11. A method as defined in Claim 10, wherein the changes in the scene representation are specified by a set of control points.

12. A method as defined in Claim 10, wherein the non-linear interpolation comprises a combination of one or more curves.

13. A method as defined in Claim 12, wherein the one or more curves are Bezier curves.

14. A method as defined in Claim 13, wherein the Bezier curve is a cubic.

15. A method as defined in Claim 10, wherein the interpolation is of a scalar value.

16. A method as defined in Claim 10, wherein the interpolation is of a color representation.

17. A method as defined in Claim 10, wherein the interpolation is of a three dimensional position representation.

18. A method as defined in Claim 10, wherein the interpolation is of a two dimensional position representation.

19. A method as defined in Claim 10, wherein the specified changes in the scene representation from the initial value are received from a remote server

20. A decoder used in a VRML scene description for processing an animation, the decoder comprising:

an interpolator configured to receive control parameters relating to an animation path in a scene description and a timing signal input; and

an interpolation engine configured to accept the control parameters and the timing signal from the interpolator node and reproduce a non-linear animation path, and to output a new animation value to the interpolator node for use in the scene description.

21. A decoder as defined in Claim 20, wherein the interpolator engine comprises a combination of one or more curves.

22. A decoder as defined in Claim 21, wherein the one or more curves are Bezier curves.

23. A decoder as defined in Claim 22, wherein each Bezier curve is a cubic function.

24. A method of deforming a scene, the method comprising:

defining a sub-scene, of the scene, in a child node of a scene descriptive language;

moving control points in the sub-scene to a desired location; and

deforming the sub-scene in accordance with the movement of the control points.